CALIFORNIA PLANT PEST and DISEASE REPORT

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The Mediterranean fruit fly, *Ceratitis capitata,* was the subject of another eradication program this summer. This picture is a computer-scanned image taken from a photograph by Jack Clark, U.C. Cooperative Extension. The picture was scanned with a Macintosh Plus computer and scanned with "Thunderscan." Touchup work was done in "Superpaint" and printing was done on an Apple Laser Writer. Layout is in "Pagemaker."

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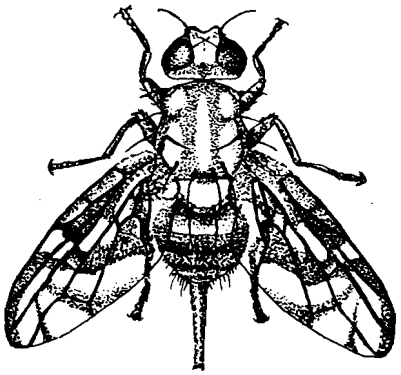
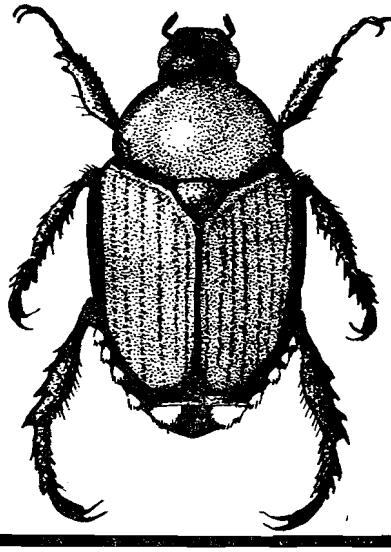


Entomology Highlights



SIGNIFICANT FINDS

Tephritid Fruit Flies were dominating the spot-light in California this summer. The biggest news of course is the Mediterranean Fruit fly finds and the resulting eradication project in Los Angeles County. So many different species of tephritid flies and so many specimens of some of the species were collected that the total finds will be listed in here in chart form only. There will be no attempt to list all of the locations and collectors involved except those that are new State or County records. We wish to congratulate all of the sharp-eyed trappers and others who were responsible for finding the specimens. The following list compiled by Cindy Mills includes all of the Tephritid finds this year up to October 31; the only specimens caught in 1987 prior to the last issue of C.P.P.D.R. were two specimens of the Oriental fruit fly (one each from Canoga Park, Los Angeles County and South Laguna, Orange County) and one specimen of Dacus scutellatus:

MEDITERRANEAN FRUIT FLY, Ceratitis capitata -(A)-
Los Angeles County
44 adults
32 males, 12 females
1 larval property
Orange County
1 female

ORIENTAL FRUIT FLY, Dacus dorsalis -(A)-
Los Angeles County
29 adults
27 males, 2 females
Orange County
16 adults
14 males, 2 females

San Diego County
4 adults
2 males, 2 females
Santa Clara County
2 adults
1 male, 1 female
San Bernardino County
1 male

EXOTIC DACUS SPECIES. ---:

GUAVA FRUIT FLY, Dacus correctus -(A)-
Los Angeles County 1 male

A FRUIT FLY, Dacus scutellatus -(A)-
Los Angeles County 1 male
(See CPPDR 6(1-2):3-4.)

AFRICAN PUMPKIN FLY, Dacus bivittatus -(A)-
Los Angeles County 1 male
(See the following article on this species under "(New State and North American Records.")

PEACH FRUIT FLY, Dacus zonatus -(A)-
Los Angeles County 6 males
(See CPPDR 3(3):50-51.)

A FRUIT FLY, Dacus sp. (unknown) -(A)- 1 male
Los Angeles County
(See the following article under "New State and North American Records.")

APPLE MAGGOT, Rhagoletis pomonella -(A)-
1,359 adults

Alameda County	1 male
Del Norte County	95 males, 209 females
Humboldt County	227 males, 638 females
Mendocino County	5 males, 16 females
	1 larval property
Modoc County	1 female
Shasta County	2 males, 2 females
Siskiyou County	21 males, 58 females
Sonoma County	10 males, 26 females
Trinity County	8 males, 11 females

WESTERN CHERRY FRUIT FLY, Rhagoletis indifferens -(A)-
Collected from a fruit fly trap placed in an apple tree in Alta, Placer County. The collection was made by K. Connolly on August 5. Specimens were also collected by Henderson at Baxter, Nyack and Whitmore, Placer County on August 13.

GYPSY MOTH, Lymantria dispar -(A)- Six adult gypsy moths and one larval property were detected in California in 1987. The following reports by John Pozzi outline the finds:

> "The first gypsy moth of the year was trapped on June 12 in Bakersfield, Kern County. The moth was found by County Agricultural Inspector Pat Cruz while servicing a GM trap that had been placed in a magnolia tree."
>
> "A gypsy moth was trapped on June 23 in Sunnyvale, County. The moth was found in a Delta/GM trap that had been placed in a mulberry tree on Tamarack Lane. Santa Clara County Pest Detection Trapper George Vermillion was credited with finding the gypsy moth."
>
> "A gypsy moth was trapped on July 7 in Pleasanton, Alameda County. The moth was found in a Delta/GM trap that had been placed in a front yard oak tree on Foothill Road. Alameda County Pest Detection Specialist David Gould was credited with finding the gypsy moth."
>
> "On July 8 Alameda County Department of Agriculture Trapping Supervisor Cheryl Mailho and CDFA Area Manager John Connell found a gypsy moth egg mass, pupal case and cast skins at a residence on Forrest Hill Drive in Pleasanton."
>
> "Los Angeles County Agricultural Inspector Aide Breman Agyemang found a gypsy moth in a GM trap in Woodland Hills on July 22. The trap was placed in roses along Friar Street."
>
> "A gypsy was trapped at a property along Prospect Street in Nevada City, Nevada County on July 22. The moth was found in a GM trap placed in a black locust. Nevada County Trapper Janet Lohmeyer is credited with finding the moth."

JAPANESE BEETLE, Popillia japonica -(A)- Three beetles have been trapped during this period. One beetle was trapped July 22 at the Mountain Gate Country Club in Los Angeles by Ray Smith. The second collection was on July 28 at the Santa Barbara Airport by Tina Melquist. The last collection was by Contra Costa County Pest Detection Specialist Don Atkinson-Adams on August 5 from a trap set in a dooryard in Danville.

WHITE GARDEN SNAIL, Theba pisana -(A)- Currently undergoing an eradication effort in San Diego County, this snail has been found in two new locations in that County. The first new find was made in early June by a home owner in response to an article about the

snail which appeared in "Sunset Magazine." Another call in response to the article resulted in a collection by Agricultural Technician Aide Simone Hardy on High Rise Way in Santee on June 5. On June 9, Belinda Moss found specimens on Via Nina Way in Carlton Hills near Santee.

PINK BOLLWORM, Pectinophora gossypiella **-(A)-** A total of 294 native moths have been trapped in the southern San Joaquin Valley this year. This total is higher than the last two years but well within the average for the last seven years. The following chart outlines the finds by county as of October 30:

Kern	116
Tulare	38
Kings	66
Fresno	71
Madera	3
Merced	0

The following chart outlines the total native pink bollworm finds in the southern San Joaquin Valley over the last several years:

YEAR	TOTAL NATIVES
1981	677
1982	120
1983	863
1984	351
1985	160
1986	62
1987	294

TRACHEAL MITE, Acarapis woodi **-(A)-** This tracheal parasite of honeybees continues to be found in California apiaries. The following list compiled by Tokuwo Kono and Susan Sawyer outlines the finds:

County	# Colonies	Origin	Date	Collector
Butte	660	Washington	10-12-87	T. Kono
Butte	48	Butte	10-21-87	T. Kono
Butte	186	Butte	10-21-87	T. Kono
Butte	120	Butte	10-21-87	T. Kono
Butte	120	Butte	10-21-87	T. Kono
Siskiyou	12	Oregon	08-21-87	Siskiyou Co.
Shasta	96	Fresno	09-10-87	T. Kono
Solano	100	Kings	09-23-87	B. Lyon
Solano	97	Kings	09-26-87	B. Lyon
Solano	51	Colusa	10-06-87	B. Lyon
Solano	100	Solano	10-13-87	B. Lyon
Sutter	400	Washington	09-28-87	S. Anderson
Ventura	550	Ventura	06-12-87	T. Kono

NEW STATE AND NORTH AMERICAN RECORDS

A TEPHRITID FRUIT FLY, Dacus bivittatus **-(A)-** The following report by John Pozzi outlines the first U.S. find of this exotic tephritid:

> "Dacus bivittatus was trapped on August 3 in Cerritos, Los Angeles County. The fruit fly was found in a Jackson/Cue-lure trap that had been placed in a plum tree on Linda Way. Los Angeles Trapper Tony Do is credited with finding the fly.
>
> This is the first time Dacus bivittatus has been detected in North America. It is widespread in Africa and is a pest of Cucurbitaceae. It has been recorded to have been found in papayas and tomatoes."

AN UNIDENTIFIED TEPHRITID FLY, Dacus **sp. -(A)-** The following report by John Pozzi outlines the find of this unusual fruit fly:

> "An unidentified male Dacus sp. was trapped on August 6 in Grenada Hills, Los Angeles County. The Dacus sp. was found in a Jackson/Methyl eugenol trap that had been placed in a peach tree along Index Street. Los Angeles County Trapper Rosemary Sanchez is credited with finding the fly."

Insect Biosystematist Eric Fisher has the following comments about the possible identification of the species:

> Tephritid Specialist Dr. R. Drew agrees that this specimen is not fully identifiable. It is likely that this fly is an undescribed species closely related to Dacus pallidus. It probably came from Asia - outside of the South Pacific areas including Australia, New Guinea and the Pacific islands to the east.

AN AUSTRALIAN SEED BEETLE, Coccotrypes rutshuruensis **-(Q)-** The following report by Tom Eichlin outlines the discovery of this exotic beetle:

> "On June 16, 1987, Nick Nisson of the Orange County Agricultural Commissioner's Office submitted a scolytid beetle (bark beetle) for identification. The beetles were mining the bases of Kentia palm seedlings and were causing the death of many plants. Dr. Fred Andrews tentatively identified the beetles as Coccotrypes dactyloperda, the date stone beetle, an introduced pest of date palms. Because the series of specimens showed minor differences when compared to specimens in the state collection, a sample was forwarded to Dr. Donald

Anderson, USDA, Agricultural Research Service. On July 16, Dr. Anderson tentatively identified it as Coccotrypes carpophagus, an Australian seed beetle of worldwide distribution and economic concern. There is no revisionary treatment of Coccotrypes, and the identification was made by comparison to specimens in the Smithsonian collection. Since minor differences were observed, the specimens were forwarded to Dr. Stephen Wood of Brigham Young University. Dr. Wood is the premier scolytid worker in the world. He positively identified the beetle as Coccotrypes rutshuruensis Eggers, an African species. This is the first report of the "Q" rated pest in the United States. There is no published information on the biology of this species, but Dr. Wood hypothesized that the species was primarily spermophagus (seed inhabiting) but phloeophagus (inhabiting vegetative growth) when seeds are not available.

Orange County applied two treatments of Diazinon at 24 oz./gal. 20 days apart. Inspection of the property has demonstrated no additional specimens of the beetle.

NEW COUNTY RECORDS

APPLE MAGGOT, Rhagoletis pomonella -(A)- First collections of apple maggot have been recorded for both Alameda and Modoc Counties this year. On August 20, Alameda County Department of Agriculture Detection Specialist Tony Idarola found an apple maggot adult in a McPhail trap placed on an apple tree on Mountain Boulevard in Oakland. On September 2, Modoc County Department of Agriculture Trapper Lynn Smith found an apple maggot adult in an AM trap in Lake City.

SOUTHERN GREEN STINKBUG, Nezara viridula -(Q)- This pest of field and vegetable crops was first found established in California near Davis, Yolo County in 1986. An article appeared in the August-October issue of CPPDR [5(5):261-265, 1986] on the pest, although details outlining the first state record status of the pest were inadvertently left out of the article. The insect had been found initially infesting fields in Yolo, Solano and Sacramento Counties. Later a specimen was collected near the Port of San Diego for a new San Diego County record. Now it has been found in yet another county. The first San Joaquin County find was made at Thornton on August 27 by Biulion, Bradford and McKibben. Another find has also been made in San Diego County at Chula Vista by David Kellam.

Recently, a very fine article appeared in California Agriculture [41(5-6):4-6, May-June 1987]. The article is entitled "Control of stink bugs in tomatoes" and was written by Michael Hoffman, Lloyd Wilson and Frank Zalom. Their findings indicate that certain

chemical controls for the southern green stink bug may be more effective than for control of the consperse stink bug, another common pest of tomatoes in the San Joaquin Valley, because of differing habits between the two species. They also state that "Preliminary findings indicate that native parasitoids are not parasitizing eggs of the southern green stink bug and that more effective natural enemies may need to be imported." That importation process has been undertaken and the authors hope to introduce specific egg parasitoids this year.

WOOLLY WHITEFLY, Aleurothrixus floccosus -(A)- According to John Pozzi, woolly whitefly has been detected for the first time in Santa Clara County. A homeowner on East Reed Street in San Jose brought the specimens to the Santa Clara County Agricultural Commissioner's Office and Deputy Agricultural Commissioner Roger Bibb made a tentative identification. The identification was confirmed in Sacramento.

BAILEYANA PSYLLID, Acizzia acaciae-baileyanae -(A)- This psyllid, known to the Australians by the exotic name of cootamundra wattle psyllid, was first found in California and North America on May 28 in Alameda and Solano Counties (See CPPDR 6(1-2): 6-7). Since then it has been found in two new counties. A new record for Orange County was made by P. Delacruz in the city of Cypress on September 3. A new record for Santa Barbara County was made at Goleta on June 19 by T. Wurster and J. Davidson. Since that time it has also been found in the Santa Barbara cities of Santa Barbara, Santa Maria and Carpinteria.

PEPPER TREE PSYLLID, Calophya schini -(C)- This recent introduction and serious pest of California pepper trees continues to expand its range. Specimens were submitted by a Santa Rosa, Sonoma County homeowner on June 2. The submission was made to U.C. Agricultural Extension Specialist John Joos, who submitted the specimens to the Sacramento lab for identification.

FIG PSYLLID, Homotoma ficus -(B)- Collected for the first time in Santa Clara County at Mountain View. One specimen was collected from a fruit fly trap by Toth on October 23. The psyllid was previously known only from Contra Costa and Solano Counties.

AUSTRALIAN SOD FLY, Inopus rubriceps -(B)- Found for the first time in Contra Costa County at Richmond. The sample was submitted to Bob Cruikshank of the Contra Costa Agriculture Department through the "WHO DONE IT" survey program on Sept. 18. This minor pest of grasses also occurs in San Francisco, San Mateo, Alameda, Monterey, Sonoma and Santa Cruz Counties.

PISTACHIO SEED CHALCID, Megastigmus pistaciae -(B)- Found for the first time in Tehama County at Gerber by Tily on Sept. 17. The wasp was collected in an Apple Maggot trap. The species has

been commonly collected near by in Butte County, and also is known from Sacramento, Orange and San Diego Counties.

SIGNIFICANT FINDS IN OTHER STATES

VARROA MITE, Varroa jacobsoni -(Q)- This acarine external parasite of honeybees has been found in the United States for the first time. The original U. S. record is from Wisconsin although at the time of this writing the mite had also been found in the following states: Nebraska, Illinois, Ohio, Pennsylvania, New York, Michigan, South Dakota and Florida. A report by Allen Clark outlines the first find and lists effective survey techniques:

> "One apiary of approximately 21 colonies were sampled and found infested on September 29. All of the colonies were destroyed.
>
> The owner of the bees is a migratory beekeeper who overwinters in Florida. He sold approximately 1,800 packages of bees to Dadant Supply Company which were subsequently distributed to other states.
>
> Dadant Supply Company does ship in California, but those bees are from a California source.
>
> Although no special survey for varroa mite is planned at this time, those counties who wish to, can make their own examinations of apiaries that are sent under hold to them from our border stations. Mites that are collected in the field should be sent to the CDFA laboratory for identification. Anyone who would like training in the collection of varroa mites from hive litter, bee brood or bee samples should contact Tokuwo Kono of the CDFA laboratory at (916) 445-4521. A write up of the procedures is also available in the Exotic Pest Profile No. 3 for varroa mite that was prepared by Jacquelyn Chesi, CDFA. These are available on request from Pest Exclusion in Sacramento. A copy of this examination procedure follows this advisory text.
>
> Bee samples should not be routinely sent to the CDFA laboratory for varroa mite examination unless there is some reason to suspect there may be mites in the colonies.
>
> **Note:** The acarine mite inspections done in the control county areas should also include an inspection for varroa mite as described by Tok Kono in his instructions for acarine mite testing."

The following is a copy of the varroa mite updated inspection and survey procedures:

ETHER STARTER FLUID METHOD
Samples must be pulled from the brood nest in order to detect varroa mites. Bees taken from the hive entrance are usually older and have a much lower probability of being infested. A sample should consist of a pint jar 1/3 to 1/2 full of bees (about 500 bees for centrification samples) or a quart jar 1/3 to 1/2 full of bees (about 1000 bees for quarantine or survey samples). The jars must be round with smooth glass. Spray bees with a one to two second burst of ether from an aerosol starter fluid, which can be found in auto parts stores. Do not overspray, but be sure bees are dead. Rotate jar very rapidly 5-7 times on its side, then slowly rotate the jar 5-7 times, while looking for mites on the side as you turn it. If no mites are found, pour bees onto a piece of white paper and again examine the jar for mites. Slowly move the bees around on the paper and look for the mites on the paper. Place the bees back in the jar and cover them with alcohol. Apply the alcohol shaking method to these bees back at your laboratory. The mites will appear as a reddish brown spot about the size of a pin head. A hand lens allows easy differentiation between suspect appearing debris and an actual mite.

PAPER TRAY METHOD
A sheet of light colored paper or plastic is inserted in the bottom of the hive. A wood frame with gauze (3 mm aperture) or hardware cloth (smaller than 8 mesh per 25.4 mm) is placed over the sheet of paper. At weekly or monthly intervals, the sheets are removed and examined for mites. This method is best in the fall and winter when mite mortality is high. A fumigant such as tobacco smoke can increase the possibility of finding mites in lightly infested colonies. The mites are separated from the debris by using a flotation method. Mites will float in alcohol or table oil.

EXAMINATION OF THE DRONE OR WORKER CELLS
The examination of the bee brood is the most reliable detection method. The brood cells are opened, and the pupae and insides of the cells are examined. The mites are easily distinguished on 13-day worker pupae and 18-day drone pupae. White spots on the inside of the brood cell are indicative of varroa infestation.

RUSSIAN WHEAT APHID, Diuraphis noxia **-(A)-** The January- May issue of the CPPDR [6(1):12-13] carried an article about the Russian wheat aphid and its known distribution in the U.S. Since that time, the species has continued its western movements and has now been found in the states of Montana, Idaho and Utah.

IMPORTANT NAME CHANGES

The tristania psyllid was first discovered in California in 1983. At that time the species was undescribed. It has now been described. See the following account:

TRISTANIA PSYLLID, Ctenarytaina longicauda **-(C)-** This species has been recorded from San Diego [CPPDR 2(4):107, 1983], Huntington Beach, Orange County [CPPDR 3(2):30, 1984] and Santa Barbara [CPPDR 3(6):144, 1984]. The species has just been described by Keith Taylor of CSIRO in Tasmania. The article appeared in the Journal of the Australian Entomological Society 26: 229-233 and is entitled "Ctenarytaina longicauda sp. n. (Homoptera: Psylloidea) from Lophostemon confertus (R. Brown) in Australia and California." The host plant of this psyllid is the Brisbane box tree, a very close relative of Eucalyptus. The name originally used for the Brisbane box was Tristania confertus but the name has now been changed to Lophostemon confertus. The following illustrations show the important morphological structures used in the identification of the psyllid and were taken from the above article by Keith Taylor:

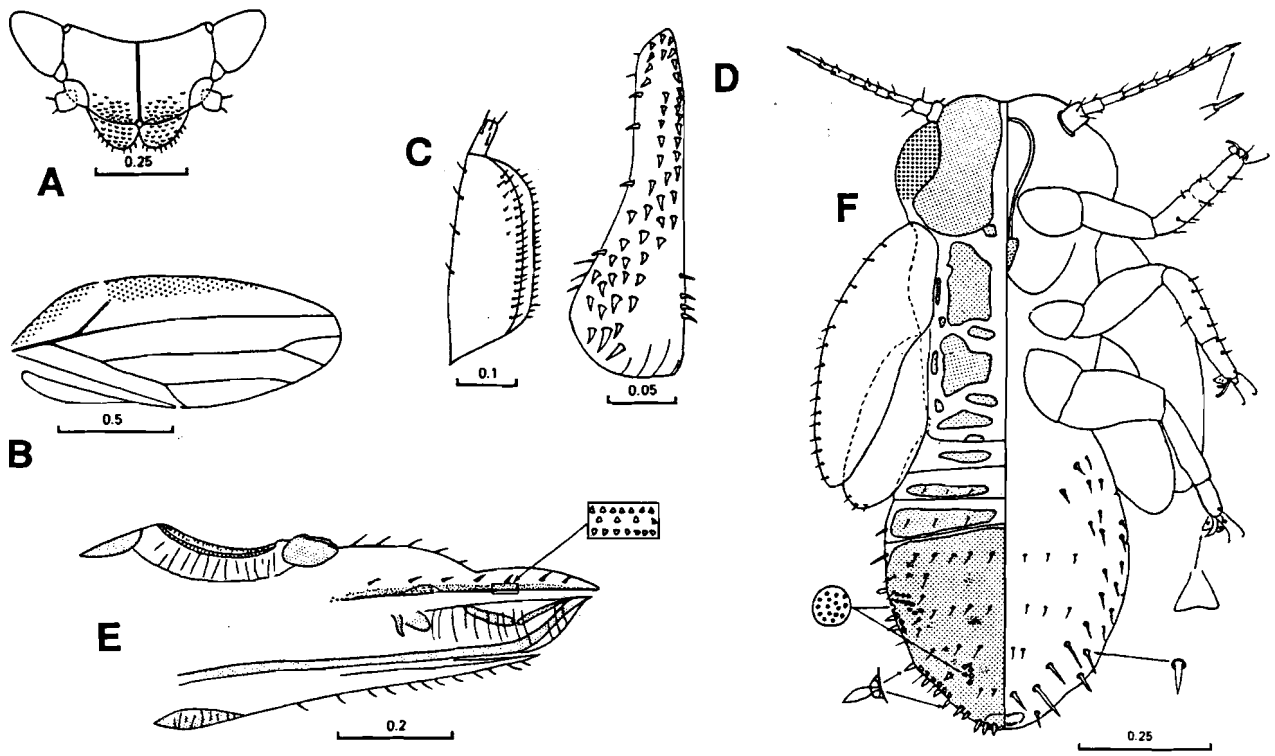


Fig. 1: a) head of adult male in anterior view. b) wing. c) male proctiger in lateral view. d) male clasper in lateral view. e) female ovipositor in lateral view. f) last instar nymph.

IMPORTANT NAME CHANGES(continued)

MADEIRA MEALYBUG, Phenacoccus madeirensis -(C)- A recent study of the Phenacoccus gossypii complex of mealybugs by Dr. Douglas Williams of the Commonwealth Agricultural Bureau in London, England has resulted in some startling discoveries. The most important discovery as it relates to California is the fact that the common California species which has been called the Mexican mealybug, Phenacoccus gossypii Townsend and Cockerell has been mis-identified all of these years. Dr. Williams has found that our California material is all the Madeira mealybug, Phenacoccus madeirensis Green, a species described in 1923 from Funchal, Madeira Islands. The species occurs generally throughout North and South America, Africa and most of the major island groups in the Atlantic Ocean. The Mexican mealybug was described from Tabasco, Frontera, Mexico and while it does occur in the U.S. in Texas and Florida, it has not been recorded so far from California. The major morphological difference between the species is that madeirensis has no multilocular disk pores on the mid-dorsal areas of the thorax, while gossypii does. The above work by Dr. Williams appeared in the Bulletin of Entomological Research 77:335-356, 1987 and is entitled "Phenacoccus gossypii Townsend & Cockerell, P. madeirensis Green and some related mealybug species (Hemiptera:Pseudococcidae)." This change should be noted in McKenzie's "Mealybugs of California" and in the Color Keys to the Mealybugs of California.

EXCLUSION AND DETECTION

The following are considered to be major finds by quarantine personnel during this period:

MEDITERRANEAN FRUIT FLY, Ceratitis capitata -(A)- Larvae of this serious fruit fly pest were intercepted in sapodillo fruit by Lorenzo Fernandez of the Orange County Department of Agriculture. The fruit was being sent to an individual in the city of Orange via first class mail from Hawaii. The following report by Allen Clark outlines the significance of this find:

> "This package [of sapodillo fruit] was not labeled as plant material so delivery was attempted by the post office. Fortunately, the address was not correct and the package was returned to the post office. By this time the fruit began to decompose. The package was inspected at the rewrap table by Lorenzo Fernandez who collected the three live larvae.
>
> This is the second time in two days that a fruit fly infested first class mail parcel was returned to the post office due to an incorrect address. Had the address been correct, it may have resulted in another

eradication project. The excellent rapport that has developed between the Santa Ana Sectional Center and the Orange County Department of Agriculture has proven to be very valuable in the exclusion effort."

ORIENTAL FRUIT FLY, Dacus dorsalis -(A)- This fly was also found in mail parcels from Hawaii by Orange County Agricultural Inspector Lorenzo Fernandez. Two collections were made, one on June 26 and one on July 10. One package was destined for Fountain Valley and the other was destined for a Santa Ana address.

MALAYSIAN FRUIT FLY, Dacus latifrons -(A)- One adult and 25 puparia were found associated with eggplants and peppers in the trunk of an automobile from Hawaii. The find was made by S. Koller at Lancaster, Los Angeles County on August 27.

GYPSY MOTH, Lymantria dispar -(A)- The following interceptions have been made this summer:

County	Origin	Date	Stage	Collector(s)
SJ	NJ	6/4	L	Helmar
LA	CONN	6/9	L,P	Olson
SAC	CONN	6/28	P	Zukin
MON	MASS	6/18	L,P	Correia
SBEN	NY	6/30	E	Rachuy
YO	NJ	7/7	E,L,P	Ratliff
ALA	NJ	7/8	E,P	Connell/Mailho
LA	CONN	7/8	E,P	Dingfelder
SAC	NJ	7/10	L	Zukin
SAC	MD	7/13	P,A	Zukin
OR	PENN	7/	L,P	Seslowe
OR	CONN	7/7	E,L,P	Goodreau
CC	CONN	7/14	L,P	Correia
SLO	MASS	7/13	P,A	Drause
CC	CONN	7/13	L,P	Ziegler
SM	NY	7/20	L	Struffenegger
SAC	unk	7/22	L,P	Zukin
STCL	NJ	7/30	P	Maggi
CC	CONN	7/30	L,P	Correia
SAC	VIR	8/6	L,P	Jensen
STCZ	CONN	8/6	L	Morton
SM	CONN	8/6	P	Reppas
SD	NY	8/5	L,P	Rumsey
MAR	unk	8/5	L,P	deGrassi
LA	NJ	8/12	P	Dingfelder
CC	NJ	8/7	E	Ziegler
FR	NHA	8/13	E,L	Sciaroni
SD	CONN	8/14	L,P	Kenyon
STCZ	CONN	8/28	E,P	Morton
SD	VIR	8/28	E	Kenyon
SOL	VIR	8/28	E,P	Lyon

GYPSY MOTH(continued)

SBER	MAR	9/1	E	Lounsbury
SBEN	VIR	9/1	L,P,A	Rachuy
CC	NY	8/31	L,P	Ziegler
CC	DEL	9/4	E,P	Ziegler
SBER	NJ	9/11	P	Mitchell
STCZ	NJ	9/16	E,P	Morton
ALA	NJ	10/1	E,L,P	Pieslak
OR	?	10/7	E,L,P	Miller
SM	CONN	10/16	L,P	Aby
VEN	PENN	10/13	E	Cazzola
ALA	NY	10/16	L,P	Jones
LA	PENN	10/16	P	Tanaka
OR	RI	10/16	E,L,A	Harris
YU	NJ	10/29	E,P	Stenlund

JAPANESE BEETLE, Popillia japonica -(A)- A large number of Japanese beetles have been found again on incoming commercial airline flights this summer. However the list for the total number of interceptions is not currently available and will be included in the last yearly issue of CPPDR.

MINING SCALE, Howardia biclavis -(A)- This ornamental pest has been found several times in California nurseries. The infested plants, however, are believed to be recently brought into the state and, therefore, the collections are considered to be quarantine interceptions. In one instance the scales were found to be still alive after a fumigation treatment had been made on entry into the State. All of the collections except one have been made in San Diego County by Jim Kenyon: San Diego, 7/7/87 on Ficus benjamina; Chula Vista, 7/16/87 on Ficus benjamina; El Cajon, 10/2/87 on Ficus benjamina; Chino, San Bernardino County, 10/29/87 by R. Miller on Ficus benjamina.

MAGNOLIA WHITE SCALE, Pseudaulacaspis cockerelli -(A)- The following interceptions have been made this summer:

County	Origin	Date	Host	Collector(s)
LA	FLA	6/4	Mango	Tanaka
LA	HI	6/6	Areca palm	Olson
SJ	FLA	6/8	Areca palm	Croce
SOL	HI	6/10	Coconut	Musso
SBO	HI	6/15	Maille	Nash
SAC	FL	6/16	Palm	Bianchi
SD	HI	6/16	Palm	Brown
SAC	HI	6/18	Maille	Jensen
SAC	HI	6/19	Palm	Bianchi
LA	unk	6/19	Palm	Kellam
SAC	HI	6/25	Palm	Bianchi
SAC	HI	6/26	Maille	Jensen
SLO	HI	7/7	Palm	Delwiche
LA	HI	7/18	Cycad	Olson

MAGNOLIA WHITE SCALE(continued)

SJ	FL	7/23	Palm	Hudson
STB	unk	7/27	Palm	Cheesman
SAC	FL	8/3	Palm	Bianchi
SD	HI	8/7	Maille	Ginsky/Kennedy
LA	HI	8/11	Howea sp.	Simon
SJ	FL	8/19	Palm	Gritz
LA	FL	8/20	Palm	Tanaka
SD	MEX	8/21	Mango	Brown
SD	FL	8/21	Mango	Kennedy
SJ	HI	8/24	Strelitzia	Watkins
SD	FL	9/1	Palm	Kenyon
LA	HI	9/8	Herbs	Hansen
LA	HI	10/1	Palm	Hansen
SD	unk	10/2	Palm	Kenyon
SD	FL	10/2	Palm	Kennedy
LA	HI	10/22	Ginger	Hansen
LA	unk	10/26	Palm	Olson

GREEN SHIELD SCALE, Pulvinaria psidii **-(A)-** The following interceptions have been made this summer:

County	Origin	Date	Host	Collector(s)
YO	HI	6/8	Ginger	Souza-Cole
LA	HI	6/28	Ginger	Hanson
SON	FL	6/29	Ficus	Kobayashi
SJ	FL	7/23	Ficus	Hudson
VEN	HI	7/30	Ginger	McClure
SON	HI	8/3	Schefflera	Kobayashi
LA	HI	8/8	Ginger	Cassidy
SJ	FL	8/13	Ficus	Croce
LA	HI	9/10	Ginger	Hansen
LA	HI	9/15	Monstera	Hansen
LA	FL	9/15	Ficus	Olsen
LA	FL	10/9	Ficus	Simon
LA	HI	10/22	Ginger	Hansen
FR	HI	10/22	Ginger	Hansen

The following charts outline the exotic pest interceptions made by plant quarantine personnel during this time period. The finds are in addition to those mentioned immediately above but do not include border station interceptions:

The following "A", "B" and "Q" rated arthropods and mollusks were intercepted in quarantine during this time period

RATING	SPECIES	COMMON NAME	DATE	ORIGIN	COUNTY	HOST	COLLECTOR(S)
Q	*Adoretus sinicus*	Chinese rose beetle	10/07	HI	LA	unk.	Koller
Q	*Anomala* sp.	a scarab beetle	7/17	TX	SD	Aircraft	Gonzalez
Q	*Anomala* sp.	a scarab beetle	7/17	NJ	LA	Aircraft	Grant
Q	*Anomala* sp.	a scarab beetle	7/24	unk.	ALA	Aircraft	Weston/Gould
Q	*Anomala* sp.	a scarab beetle	7/29	KY	ALA	Aircraft	Gonzalves
Q	*Anomala undulata*	a scarab beetle	6/22	PENN/IL.	SD	Aircraft	Gonzalez
Q	*Araecerus fasciculatus*	coffee bean weevil	6/09	HI	SD	Ti	Brown
Q	*Cerotoma trifurcata*	bean leaf beetle	7/30	OHIO	SM	Aircraft	Takahashi
Q	*Conotrachelus* sp.	a weevil	7/20	NY	LA	Aircraft	Grant
Q	*Diabrotica undecimpunctata*	southern corn rootworm	7/30	OHIO	SM	Aircraft	Takahashi
Q	*Eutheola humilis rugiceps*	sugarcane beetle	7/13	TENN	ALA	Aircraft	Peters
Q	*Hylesinus* sp.	a bark beetle	10/01	EUROPE	ALA	*Quercus* sp., w/bark	Brown
Q	*Hylesinus* sp.	a bark beetle	10/05	EUROPE	ALA	*Quercus* sp., w/bark	Brown
Q	*Maladera castanea*	Asiatic garden beetle	7/08	KY	SBO	Aircraft	Bauer
Q	*Maladera castanea*	Asiatic garden beetle	7/09	CONN/MASS	LA	Aircraft	Grant
Q	*Maladera castanea*	Asiatic garden beetle	7/14	KY	LA	Aircraft	Grant
Q	*Maladera castanea*	Asiatic garden beetle	7/17	TX	SD	Aircraft	Gonzalez
Q	*Maladera castanea*	Asiatic garden beetle	7/22	GA	LA	Aircraft	Blankenship
Q	*Maladera castanea*	Asiatic garden beetle	7/22	GA	LA	Aircraft	Blankenship
Q	*Maladera castanea*	Asiatic garden beetle	7/24	unk.	ALA	Aircraft	Weston/Gould
Q	*Maladera castenea*	Asiatic garden beetle	7/15	NY	LA	Aircraft	Blankenship
Q	*Phyllophaga* sp.	a scarab beetle	6/25	unk.	SBO	Aircraft	Bauer
Q	*Phyllophaga* sp.	a scarab beetle	6/26	NJ	SBO	Aircraft	Bauer
Q	*Phyllophaga* sp.	a scarab beetle	6/29	KY	SBO	Aircraft	Bauer
Q	*Phyllophaga* sp.	a scarab beetle	6/30	NJ	SBO	Aircraft	Bauer
Q	*Phyllophaga* sp.	a scarab beetle	7/06	NJ	SBO	Aircraft	Bauer
Q	*Phyllophaga* sp.	a scarab beetle	7/06	unk.	SD	Aircraft	Gonzalez
Q	*Phyllophaga* sp.	a scarab beetle	7/08	KY	ALA	Aircraft	Weston
Q	*Phyllophaga* sp.	a scarab beetle	7/08	NJ	SBO	Aircraft	Bauer
Q	*Phyllophaga* sp.	a scarab beetle	7/17	FL.	SD	Aircraft	Gonzalez
Q	*Phyllophaga* sp.	a scarab beetle	7/24	IL	SD	Aircraft	Gonzalez
Q	*Phyllophaga* sp.	a scarab beetle	10/19	CANADA ?	SON	Luggage	Vernon
Q	*Polygraphus polygraphus*	a bark beetle	7/10	BELGIUM	ALA	Conifer wood w/bark	Brown
Q	*Protaetia fusca*	mango flower beetle	9/01	HI	LA	Auto/wood debris	Koller
Q	*Protaetia fusca*	mango flower beetle	10/07	HI	LA	Automobile	Koller
A	*Rhizotrogus majalis*	European chafer	7/02	TX	SBO	Aircraft	Bauer
A	*Rhizotrogus majalis*	European chafer	7/08	KY	SBO	Aircraft	Bauer
A	*Rhizotrogus majalis*	European chafer	7/08	KY	ALA	Aircraft	Weston/Owens
A	*Rhizotrogus majalis*	European chafer	7/08	NJ	SBO	Aircraft	Bauer
A	*Rhizotrogus majalis*	European chafer	7/08	KY	SBO	Aircraft	Bauer
A	*Rhizotrogus majalis*	European chafer	7/09	KY	SBO	Aircraft	Bauer
A	*Rhizotrogus majalis*	European chafer	7/14	KY	SBO	Aircraft	Bauer

RATING	SPECIES	COMMON NAME	DATE	ORIGIN	COUNTY	HOST	COLLECTOR(S)
A	*Rhizotrogus majalis*	European chafer	7/15	KY	SBO	Aircraft	Bauer
A	*Rhizotrogus majalis*	European chafer	7/21	TENN	ALA	Aircraft	Gonzalez
A	*Rhizotrogus majalis*	European chafer	6/24	unk.	SBO	Aircraft	Drake/Bauer
Q	*Sinoxylon conigerum*	false powderpost beetle	7/20	INDIA	MAR	Wooden crates	Carrino
Q	*Xyloborus* sp	a bark beetle	9/10	HI	LA	*Cycas revoluta*	Olson
Q	*Xyloborus* sp.	a bark beetle	9/24	HI	SF	Nut, (unknown)	Brown
Q	*Maladera castanea*	Asiatic garden beetle	7/28	CONN/IL	LA	Aircraft	Blankenship
B	*Bradybaena similaris*	a snail	8/03	FL	LA	*Ficus benjamina*	Matsumoto
B	*Bradybaena similaris*	a snail	8/03	FL	SD	*Ficus benjamina*	Brown
B	*Bradybaena similaris*	a snail	9/15	FL	LA	Areca palm	Hynes
B	*Bradybaena similaris*	a snail	9/15	FL	LA	*Ficus benjamina*	Hynes
B	*Bradybaena similaris*	a snail	9/15	FL	LA	Areca palm	Hynes
B	*Bradybaena similaris*	a snail	9/18	FL	LA	*Ficus benjamina*	Rawald
B	*Bradybaena similaris*	a snail	9/28	FL	LA	*Ficus benjamina*	Rawald
B	*Bradybaena similaris*	a snail	10/05	FL	LA	*Ficus benjamina*	Rawald
B	*Bradybaena similaris*	a snail	10/05	FL	LA	*Ficus benjamina*	Rawald
B	*Bradybaena similaris*	a snail	10/21	FL	LA	*Ficus benjamina*	Simon
Q	*Cerneulla virgata*	maritime snail	unk.	unk.	SD	Strawberry, ground	unk.
Q	*Helicina sp.*	a snail	10/22	HI	SJ	*Dracaena* sp.	Daveluy
Q	*Trichia hispida*	a snail	7/09	PORTUGAL	ALA	unk, at large	Brown
Q	*Vaginulus plebius*	a slug	10/17	HI	LA	Herbs, Chinese	Papilli
Q	*Veronicella* sp.	a slug	8/03	HI	LA	Herb	Hansen
Q	*Veronicella* sp.	a slug	unk.	HI	SD	Cycad	Brown
Q	*Chelysomidea guttata*	a shield bug	6/08	FL	VEN	Tree fern	McClure
Q	*Nezara viridula*	southern green stink bug	9/10	ITALY ?	OR	House (interior)	Warshawsky
Q	*Acyrthosiphon* sp.	an aphid	9/17	MICH	MER	*Brugmansia* sp.	Peeler
Q	*Aleurocerus* sp.	a palm whitefly	6/18	HOLLAND	BUT	Flowers, cut	Stewart
Q	*Aleurodicus dispersus*	spiraling whitefly	6/13	HI	LA	Fern	Papilli
Q	*Aleurodicus dispersus*	spiraling whitefly	6/26	HI	LA	Herb, bitterleaf	Flowers
Q	*Aleurodicus dispersus*	spiraling whitefly	7/20	HI	SD	*Cordyline terminalis*	Ginsky
Q	*Aleurodicus dispersus*	spiraling whitefly	7/21	HI	SD	Areca palm	Ginsky
Q	*Aleurodicus dispersus*	spiraling whitefly	8/04	HI	SD	Flowers, cut	Kennedy
Q	*Aleurodicus dispersus*	spiraling whitefly	8/04	HI	SD	Flowers, cut	Kennedy
Q	*Aleurodicus dispersus*	spiraling whitefly	8/06	HI	SD	Flowers, cut	Ginsly/Blocker
Q	*Aleurodicus dispersus*	spiraling whitefly	8/11	HI	SD	Spices	Walsh/Kennedy
Q	*Aleurodicus dispersus*	spiraling whitefly	8/15	HI	SD	*Cordyline terminalis*	Ginsky
Q	*Aleurodicus dispersus*	spiraling whitefly	8/17	HI	LA	*Musa* sp.	Olson
Q	*Aleurodicus dispersus*	spiraling whitefly	9/01	HI	SD	*Cordyline terminalis*	Ginsky
Q	*Aleurodicus dispersus*	spiraling whitefly	9/03	HI	SD	Anthurium & Ti	Ginsky
Q	*Aleurodicus dispersus*	spiraling whitefly	9/17	HI	LA	*Monstera* sp.	Hansen
Q	*Aleurodicus dispersus*	spiraling whitefly	9/24	HI	SD	*Cordyline terminalis*	Ginsky
Q	*Aleurodicus dispersus*	spiraling whitefly	10/10	HI	LA	*Monstera* sp.	Olson
Q	*Aleurotulus* sp.	anthurium whitefly	7/28	HI	SD	*Anthurium* sp.	Brown

RATING	SPECIES	COMMON NAME	DATE	ORIGIN	COUNTY	HOST	COLLECTOR(S)
Q	*Aonidiella orientalis*	California red scale	7/22	FL	SJ	Areca palm	Hudson
Q	*Aonidiella orientalis*	California red scale	9/18	FL	SD	Cycad, cut	Ginsky/Kennedy
A	*Aspidiotus destructor*	coconut scale	8/25	FL	LA	Areca palm	Tanaka
A	*Aspidiotus destructor*	coconut scale	9/01	FL	SD	Areca palm	Kenyon
A	*Aspidiotus destructor*	coconut scale	9/17	HI	LA	*Monstera* sp	Hansen
A	*Aspidiotus destructor*	coconut scale	9/01	FL	SD	Areca palm	Desserich
Q	*Aspidiotus excisus*	aglaonema scale	8/06	unk.	SD	Ornamentals	Bowers
Q	*Ceroplastes floridensis*	Florida wax scale	9/08	unk	SD	*Mangifera* sp.	Desserich
A	*Ceroplastes rubens*	red wax scale	6/10	HI	SAC	Maile	Sarracino
A	*Ceroplastes rubens*	red wax scale	7/29	HI	SON	*Schefflera* sp.	Kobayashi
Q	*Chrysomphalus propsimus?*	an armored scale	6/29	unk	SOL	Palm	Hogan
Q	*Chrysomphalus propsimus?*	an armored scale	6/19	unk.	SOL	Neanthe bella ?	Hogan
Q	*Coccus acutissimus*	slender soft scale	6/09	HI	SD	Sago palm	Brown
Q	*Coccus viridis*	green scale	6/28	HI	LA	*Zingiber* sp.	Hanson
A	*Coccus viridis*	green scale	9/14	SDAF	FR	Gardenia	Kassatian/Smith
Q	*Crenidorsum* sp.	a whitefly	9/10	HI	LA	*Monstera* sp.	Hansen
Q	*Crenidorsum* sp.	a whitefly	9/16	HI	LA	*Monstera* sp.	Hansen
B	*Dysmicoccus alazon*	alazon mealybug	7/30	unk.	SJ	*Musa* sp.	Swartzell/Brown
B	*Ferrisia virgata*	striped mealybug	7/29	MEXICO	SD	*Musa* sp.	Reusche
B	*Ferrisis virgata*	striped mealybug	8/11	HI	SD	Spices	Walsh/Kennedy
A	*Genaparlatoria pseudaspidiotus*	vanda orchid scale	7/28	MEXICO	SM	*Mangifera* sp.	Buerer
A	*Genaparlatoria pseudaspidiotus*	vanda orchid scale	8/21	MEXICO	SD	*Mangifera indica*	Brown
Q	*Geococcus coffeae*	a soil mealybug	9/17	HI	LA	Neanthe bella	Olson
A	*Howardia biclavis*	mining scale	6/25	FL ?	SBO	*Ficus benjamina*	Nash/Fleming
A	*Howardia biclavis*	mining scale	7/28	HI	SON	*Ficus benjamina*	Kobayashi
A	*Howardia biclavis*	mining scale	9/01	FL	SD	*Ficus benjamina*	Desserich
A	*Howardia biclavis*	mining scale	10/12	unk.	SD	*Ficus benjamina*	Kenyon
A	*Howardia biclavis*	mining scale	10/22	unk	SBO	*Ficus benjamina*	Miller
A	*Kilifia acuminatus*	acuminate scale	6/13	HI	LA	Dieffenbachia	Papilli
B	*Lepidosaphes beckii*	purple scale	8/11	MEXICO	SD	*Citrus* sp. (orange)	Reusche
B	*Lepidosaphes beckii*	purple scale	8/31	MEXICO	SD	*Citrus aurantifolia*	Reusche
B	*Lepidosaphes beckii*	purple scale	10/20	C AM /S AM.	SF	*Citrus* sp. (oranges)	Brown
Q	*Magicicada septendecim*	seventeen year locust	6/16	KY	SBO	Aircraft	Davey
Q	*Magicicada septendecim*	seventeen year locust	6/23	TX	SD	Aircraft	unk.
Q	*Magicicada septendecim*	seventeen year locust	7/08	OHIO	STCL	Aircraft	Kennedy
Q	*Oncometopia nigricans*	blackwinged sharpshooter	7/21	FL	SJ	*Radermachera* sp.	Croce
Q	*Orchamoplatus mammaeferus*	croton whitefly	6/12	HI	SAC	Maile	Jensen
Q	*Palmicultor palmarum*	palm mealybug	6/16	HI	SD	Areca palm	Brown
A	*Parlatoria proteus*	sanseveiria scale	5/29	FL	SJ	Beaucarnia	Ball
A	*Parlatoria proteus*	sansevieria scale	9/11	HI	SAC	*Cycas revoluta*	Koller
Q	*Parlatoria zizyphi*	black citrus scale	9/08	THAILAND	LA	Kaffir lime	Koller
Q	*Philephedra tuberculosa*	a soft scale	10/20	PUERTO RICO	SD	unk.	Ginsky
Q	*Pinnaspis buxi*	boxwood scale	9/16	HI	LA	*Monstera* sp.	Hansen

RATING	SPECIES	COMMON NAME	DATE	ORIGIN	COUNTY	HOST	COLLECTOR(S)
Q	*Pinnaspis* sp.	an armored scale	7/28	HI	LA	Areca palm	Papilla
A	*Pinnaspis strachani*	lesser snow scale	6/30	unk.	YU	Palm, fan	Storm
A	*Pinnaspis strachani*	lesser snow scale	7/15	COSTA RICA	STB	*Dracaena marginata*	Loyal
A	*Pinnaspis strachani*	lesser snow scale	8/06	HI	LA	*Dracaena warneckii*	Kellam
A	*Pinnaspis strachani*	lesser snow scale	9/01	FL	SD	Areca palm	Sixtus/Kenyon
A	*Pinnaspis strachani*	lesser snow scale	9/01	COSTA RICA	SD	*Dracaena* sp	Avery
A	*Pinnaspis strachani*	lesser snow scale	9/17	HI	LA	*Cordyline* sp.	Romono/Hansen
Q	*Pinnaspis uniloba*	unilobed scale	6/10	HI	ALA	Maile	Peka/ Musso
Q	*Pinnaspis uniloba*	an armored scale	10/01	JAPAN	SON	*Clerya japonica*	Brown/Gonzalez
Q	*Pseudococcus lycopodii*	club moss mealybug	6/09	HI	HUM	Lycopodium	Spadoni
Q	*Pseudococcus lycopodii* (near)	club moss mealybug	8/31	PAHOA	YO	Lycopodium	Souza-Cole
Q	*Rhizoecus americanus*	a soil mealybug	9/04	FL	LA	Areca palms	Rawald
A	*Selenaspidus articulatus*	rufous scale	10/20	C.AM./S.AM.	SF	*Citrus* sp. (oranges)	Brown
B	*Siphanta acuta*	torpedo bug	7/11	unk.	OR	*Citrus sinensis*	Russell
B	*Siphanta acuta*	torpedo bug	7/29	HI	SD	Greens, decorative	Ginsky
B	*Siphanta acuta*	torpedo bug	8/01	HI	SD	*Cordyline terminalis*	Ginsky
B	*Siphanta acuta*	torpedo bug	10/26	HI	SAC	*Cordyline terminalis*	Jensen
B	*Siphanta acuta*	torpedo bug	10/17	HI	LA	Herbs, Chinese	Papilli
B	*Siphanta acuta*	torpedo bug	10/22	HI	SD	*Alyxia olivaeformis*	Ginsky
A	*Unaspis citri*	citrus snow scale	10/20	C.AM./S.AM.	SF	*Citrus* sp. (oranges)	Brown
Q	*Anoplolepis longipes*	an ant	6/01	HI	LA	Papayas	Koller
Q	*Anoplolepis longipes*	an ant	6/12	HI	LA	Tupidanthus	Kellam
Q	*Anoplolepis longipes*	an ant	7/02	HI	SD	Stephanotis	Brown
Q	*Diastrophus radicum*	raspberry root gall wasp	6/19	MICH	HUM	*Rubus* sp.	Spadoni
Q	*Diastrophus radicum*	raspberry root gall wasp	10/15	SDAK	SON	*Rubus* sp.	Kobayashi
Q	*Monomorium* sp.	an ant	6/15	HONG KONG	SM	Mail conveyor	Struffenegger
Q	*Monomorium* sp.	an ant	8/10	PENN	SD	Areca palm	Brown
Q	*Ochetomyrmex auropunctata*	little fire ant	6/30	FL	OR	*Ficus benjamina*	Hill/Ellis
Q	*Pheidole megacephala*	big-headed ant	6/22	HI	SF	*Acacia koa*	Brown
Q	*Pheidole megacephala*	big-headed ant	7/02	HI	SD	Flowers, cut	Blocker
Q	*Pheidole megacephala*	big-headed ant	7/30	HI	RIV	*Protea* sp.	Francisco
Q	*Pheidole megacephala*	big-headed ant	7/30	unk.	OR	Shipping container	Nisson
Q	*Pheidole megacephala*	big-headed ant	8/07	HI	SD	*Zingiber* sp., cut	Walsh
Q	*Pheidole megacephala*	big-headed ant	8/19	HI	SBO	*Protea* sp., cut	Nash
Q	*Pheidole megacephala*	big-headed ant	8/26	HI	SD	Plants, assorted	Kennedy
Q	*Pheidole megacephala*	big-headed ant	9/28	HI	YO	Cycas, cut fronds	Souza-Cole
Q	*Pheidole megacephala*	big-headed ant	9/28	HI	YO	Cycas, cut fronds	Souza-Cole
Q	*Pheidole megacephala*	big-headed ant	10/13	HI	SD	*Anthurium* sp.	Kennedy
Q	*Pheidole megacephala*	big-headed ant	10/17	HI	LA	*Zingiber* sp.	Papilli
Q	*Pheidole* sp.	an ant	6/16	FL	SBO	Tropical fish	Davey
Q	*Solenopsis geminata*	an ant	6/22	HI	SBO	Litchi	Nash
A	*Solenopsis invicta*	red imported fire ant	8/12	FL	LA	*Ficus lyrata*	Calicchia
Q	*Solenopsis* sp.	an ant	10/21	HI	SBO	*Protea* sp., cut	Nash

RATING	SPECIES	COMMON NAME	DATE	ORIGIN	COUNTY	HOST	COLLECTOR(S)
Q	*Tapinoma melanocephalum*	black-headed ant	6/05	HI	CC	Chamaedorea	Case
Q	*Tapinoma melanocephalum*	an ant	8/12	FL	LA	*Ficus lyrata*	Calicchia
Q	*Tapinoma melanocephalum*	an ant	9/29	HI	SD	Orchid plant	Kennedy
Q	*Technomyrmex albipes*	an ant	6/13	HI	LA	Flowers, cut	Papilli
Q	*Chrysodeixis chalcites*	green garden looper	10/13	HI	SAC	*Cordyline terminalis*	Jensen
Q	*Corcyra cephalonica*	rice moth	7/17	INDIA	SF	Ship	Brown
Q	*Corcyra cephalonica*	rice moth	9/04	PHILIPPINES	SJ	*Oryza sativa*	Banzhof
Q	*Euxoa* sp.	a cutworm	6/19	NB	MY	*Zea mays*	Gonzales
Q	*Halisodota* sp.	a woolybear	7/16	NY	SAC	Outdoor furniture	Zukin
Q	*Halysidota tessellaris*	a tussock moth	7/17	CONN/MASS	LA	Aircraft	Werner
Q	*Malacosoma americana*	eastern tent caterpillar	6/09	CONN	LA	Boat	Olson
Q	*Malacosoma americana*	eastern tent caterpillar	6/10	NJ	SJ	OHA	Helmar
Q	*Malacosoma americanum*	eastern tent caterpillar	7/01	MD	YO	Garden rake	Souza-Cole
Q	*Malacosoma americanum*	eastern tent caterpillar	7/10	PENN	ALA	Outdoor furniture	Jones
Q	*Malacosoma americanum*	eastern tent caterpillar	7/13	MD	SAC	Outdoor furniture	Zukin
Q	*Malacosoma americanum*	eastern tent caterpillar	8/11	PENN	SD	*Areca* sp.	Brown
Q	*Malacosoma americanum*	eastern tent caterpillar	9/22	PA	SAC	OHA	Zurkin
Q	*Malacosoma* sp.	a tent caterpillar	6/30	NY	SBE	Outdoor furniture	Rachuy
Q	*Malacosoma* sp.	a tent caterpillar	7/06	OR	YO	RV, household goods	Ratliff
Q	*Malacosoma* sp.	a tent caterpillar	7/06	IL	OR	Outdoor furniture	Miller
Q	*Malacosoma* sp	a tent caterpillar	7/09	VA	SBO	Weight bench	Mitchell
Q	*Malacosoma* sp.	a tent caterpillar	7/17	CONN	SAC	Bird bath	Miller
Q	*Malacosoma* sp.	a tent caterpillar	7/24	NY	ALA	Outdoor item	Keshmiry
Q	*Malacosoma* sp.	a tent caterpillar	8/06	VA	SAC	Redwood table	Jensen
Q	*Malacosoma* sp.	a tent caterpillar	8/13	NH	FR	Metal pipe	Sciarioni
Q	*Malacosoma* sp.	a tent caterpillar	8/14	WA	SD	Wooden table	Kenyon
Q	*Malacosoma* sp.	a tent caterpillar	8/19	MISS	RIV	Outdoor furniture	Gillis
Q	*Malacosoma* sp.	a tent caterpillar	8/20	VA	SD	Barbecue	Kenyon
Q	*Malacosoma* sp	a tent caterpillar	9/01	VA	SD	OHA	Rachuy
Q	*Malacosoma* sp.	a tent caterpillar	10/20	unk.	SBO	Barbeque	Zinsmeyer
Q	*Orgyia* sp.	tussock moth	7/06	IL	OR	Outdoor furniture	Miller
A	*Ostrinia nubilalis*	European corn borer	6/16	NB	SJ	*Zea mays*	Duren
A	*Ostrinia nubilalis*	European corn borer	7/07	NB	SJ	*Zea mays*	Giesing
A	*Ostrinia nubilalis*	European corn borer	10/16	IOWA	FR	Corn	Andreatta
Q	*Spodoptera* sp.	an armyworm	6/11	MEXICO	SD	Bell pepper	Reusche
Q	*Spodoptera* sp.	an armyworm	7/28	NB	SJ	*Zea mays*, railcar	Giesing
Q	*Corcyra cephalonica*	rice moth	9/04	PHILIPPINES	SJ	*Oryza sativa*	Banzhof
Q	*Diploptera punctata*	a cockroach	7/14	HI	ALA	Automobile	Brown
Q	*Pynoscelis* sp.	a burrowing cockroach	7/23	THAILAND	SAC	Orchids	Ouwerkerk
Q	*Incisitermes* sp.	a termite	unk.	unk.	SJ	unk.	unk.
Q	*Thrips coloratus*	a flower thrips	9/28	unk.	SF	*Dianthus* sp	Conant/Brown
Q	*Thrips hawaiiensis*	a flower thrips	10/03	HI	SD	*Zingiber* sp.	Kennedy

The following "A", "B" and "Q" rated arthropods and mollusks were intercepted in quarantine during this time period but were not fully identifiable due to condition, life stage or lack of comprehensive taxonomic works on the groups

RATING	ORDER	COMMON NAME	DATE	ORIGIN	COUNTY	HOST	COLLECTOR(S)
Q	Cerambycidae	a longhorned beetle	7/14	EUROPE	ALA	Wood	Brown
Q	Cerambycidae	a longhorned beetle	8/19	unk	ALA	Wood	Brown
Q	Cerambycidae	a longhorned beetle	8/21	unk	ALA	*Quercus* wood	Brown
Q	Cerambycidae	a longhorned beetle	8/31	EUROPE	ALA	Conifer wood	Brown
Q	Cerambycidae	a long horned beetle	10/01	JAPAN	LA	Dunnage	Koller
Q	Aphididae	an aphid	9/11	HI	SLO	*Heliconia* sp.	Frank
Q	Pseudococcidae	a mealybug	7/25	HI	LA	*Cordyline* sp.	Papilli
Q	Pseudococcidae	a mealybug	8/6	HI	HUM	Cut flowers	Spadoni
Q	Arctiidae	a woolly bear	7/13	PANANG	SF	Packing	Struffenegger
Q	Arctiidae	a woolly bear	7/14	PENN	ALA	OHA	Stephenson
Q	Arctiidae	a tiger moth	8/12	VIR	SAC	OHA	Zukin
Q	Arctiidae	a tiger moth	8/14	CONN	SD	OHA	Kenyon
Q	Arctiidae	a tiger moth	8/31	NY	CC	OHA	Ziegler
Q	Gelechiidae	a gelechiid moth	7/17	CONN/MASS	LA	Aircraft	Werner
Q	Gelechiidae	a gelechiid moth	9/29	MICH	MOD	Lavender	Ferlatte
Q	Gelechiidae	a gelechiid moth	9/4	INDIA	SJ	Dried peppers	Banzhof
Q	Noctuidae	a plusiine looper	7/29	HI	SON	*Cordyline* sp.	Kobayashi
Q	Noctuidae	an owlet moth	8/20	TEXAS	LA	Cut flowers	Cassidy
Q	Noctuidae	a plusiine moth	9/17	HI	LA	*Cordyline* sp.	Romono/Hansen
Q	Pyralidae	a pyralid moth	7/30	OH	SF	Aircraft	Takahashi
Q	Pyralidae	a pyralid moth	7/6	TAIWAN	LA	Dry flowers	Calicchia
Q	Pyralidae	a pyralid moth	8/27	NY	YU	OHA	Boch
Q	Tortricidae	a leafroller	7/14	PENN	ALA	OHA	Stephenson
Q	Blattidae	a cockroach	8/27	HI	LA	*Solanum melongena*	Koller
Q	Chilopoda	a millipede	8/13	HI	LA	Debris on auto	Koller

BORDER STATIONS

The following interceptions at the California border stations indicate the major effects that these facilities have in the continued battle against exotic pest introductions:

Colonies of red imported fire ants were found in large potted plants that had been around a swimming pool in Fort Lauderdale, Florida. The front end of the Mayflower van held a shipment of household goods, with the twelve plants at the rear of the trailer. When the Blythe inspectors boarded the truck to off-load the uncertified plants, they discovered another problem. When they started to move the containers, the ants came swarming out into the truck and onto the inspectors. Plant Quarantine Inspector Rene Bennett was stung several times on the hand, before he and Plant Quarantine Supervisor Tim Hopkins bailed out of the trailer. The truck was denied entry into California and sent back to the Ehrenberg, Arizona Station to await fumigation. A pest control outfit had to be called from Phoenix to fumigate the truck with Vikane for 24 hours. Methyl bromide could not be used because of possible damage to the household goods. The fumigation procedure cost $800 we are told. Another potential major infestation was stopped by our border inspectors. Well done!!

Over the last several years, a number of significant interceptions of exotic insect pests have taken place by various quarantine personnel. Some of these interceptions have turned out to be new records for the area of origin of the infested shipments. This situation has happened with several border station interceptions. A notable example is the discovery of the apple maggot infestation in Oregon and Washington several years ago. The finding of the apple maggot larvae in incoming apples from those states resulted in the location of the infestations which those states were previously unaware of.

This situation has again happened because of diligence by border station inspectors. Needles PQ Inspector Rich McCollum got himself a "NEW STATE RECORD" when he found live Rhagoletis indifferens (western cherry fruit fly) larvae in backyard cherries from Albuquerque, New Mexico. Unidentified fruit flies were observed last year for the first time in Albuquerque according to New Mexico officials, but were unable to specifically identify them. They may seek the aid of the USDA to initiate a trapping program next season. Meanwhile, border station inspectors have been instructed to deny entry into California all New Mexico grown back-yard cherries.

The following report by Carol Sutherland dated July 15, outlines the situation in New Mexico:

> "We apparently have another new state and county record to report---western cherry fruit fly.
>
> The data are as follows:
>
> New Mexico, Bernalillo County, Albuquerque - VI-18-87, larvae in cherry fruit.
>
> A local home owner was taking fruit to friends or relatives when the stuff was confiscated at the California border by CDFA. The cherries had maggots in them. Karen Corwin, CDFA, identified the maggots as 3rd instar Rhagoletis indifferens.
>
> This is our first state and county record for this pest. We are trying to get some adults identified from this year's crop and are collecting pupae to rear. We have two adult fruit flies submitted to USDA-ARS-SEL for emergency ID; no results as yet so stay posted.
>
> This fly apparently showed up in Albuquerque for the first time last June when we succeeded in getting it identified to genus but not to species. Calls on cherry maggots in the Metro area increased quite a bit this year. The infestation is apparently in backyard cherry trees but not in commercial orchards (little ones) higher up in the mountains."

NIDULARIALES--THE BIRD'S NEST FUNGI

Darvin DeShazer

The "bird's nest fungi" (Order Nidulariales) belong to the Class Gasteromycetes. Fungi in the Gasteromycetes release their spores within an enclosed basidiocarp, rather than forcibly discharging them into the air currents, as do most other Basidiomycete fungi. "Bird's nest fungi" is the common name for the Order Nidulariales, as well as the Family Nidulariaceae. The name, "bird's nest fungi" is derived from the fruiting body's resemblance to a bird's nest, in which peridioles (Figure 1) containing the spores, resemble eggs.

All of the fungi in the Order Nidulariales contain "eggs" numbering from one in the genus Sphaerobolus (Figure 2), to many in the genus Cyathus (Figure 1). Some species have eggs that are embedded in a sticky, gelatinous substance while others are not. Many of the non-gelatinous eggs have a cord attached which, during dispersal, helps secure it to the new substrate. The fungal spores inside of the egg are released after disintegration of the peridiole.

The "cannon-cups" (Figure 2) of the Family Sphaerobolaceae are short-lived and forcibly "shoot" their single, sticky eggs with great force. The build up of osmotic pressure within the fruiting body shoots the egg up to five meters. The bird's nest fungi, on the other hand, rely on rain drops to splash their "eggs" out of the splash-cups (Figure 1) or "nests." Old specimens of bird's nest fungi are commonly found due to the tough, leathery consistency of the splash cups which may take up to a year to decay. The cups are well anchored to their substrate which prevent rain drops from knocking them over. The force of the raindrops is concentrated by the 60-70 degree angle made by the sides of the cup. This gives the egg maximum ejection.

All species of both families are saprophytic on small twigs, herbivore dung, or on soil which is rich in organic matter. For this reason, they occasionally turn up in nursery pots and home gardens, but are more commonly encountered in the forest.

"Bird's nest" and "cannon-cup" fungi have an almost global distribution. They are common in the temperate regions of both hemispheres, relatively rare in the tropics, and occasionaly are even found in subarctic areas. The following table is a synopsis of the order Nidulariales with special reference to California.

Sphaerobolaceae Sphaerobolis -- two species, common in CA

Nidulariaceae
Cruibulum --- Three species, common in CA
Cyathus -- Forty-two species, common in CA
Mycocalia -- Five species, not known in CA
Nidula -------- Four species, common in CA
Nidularia ---- Three species, common in CA

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Illustrations by Susan M. Sawyer, Agricultural Biological Technician, Analysis & Identification Branch, CDFA.

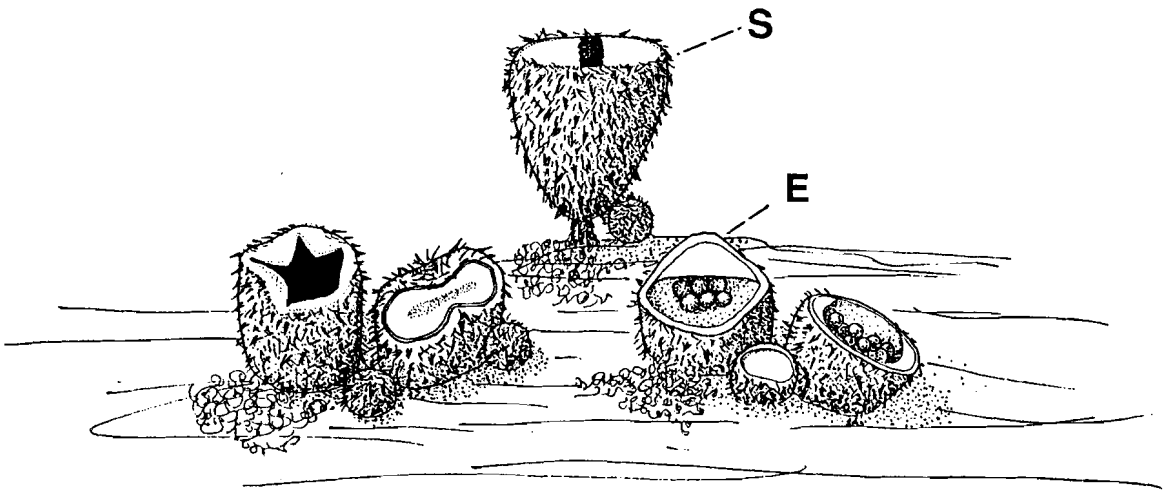

Figure 1. Cyathus, a "bird's nest fungus." Each splash-cup (S), or "nest" contains several peridioles or "eggs" (E), which are splashed out by the force of rain drops.

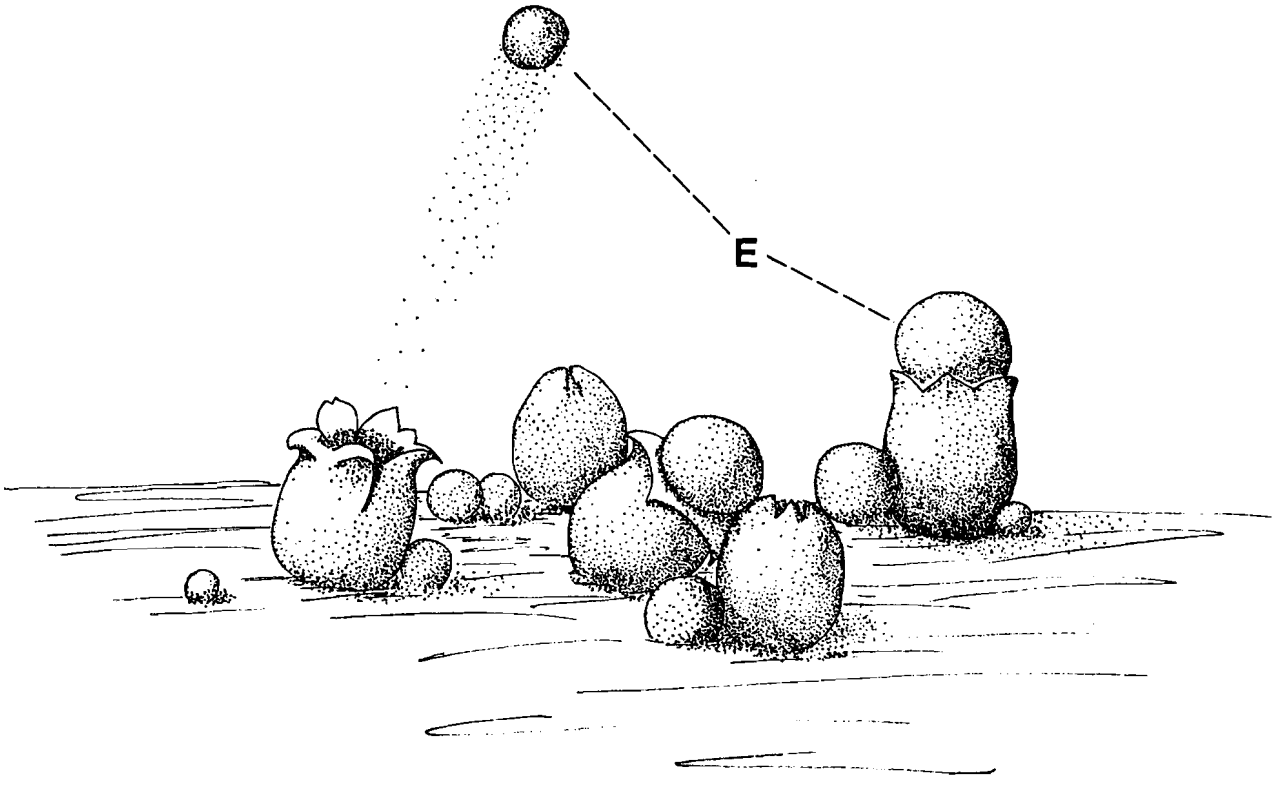

Figure 2. Sphaerobolis, a "cannon-cup fungus." Each fruiting body contains a single, sticky "egg" (E) which is "shot" with considerable force for distances of several meters.

TWO NEW HOSTS OF HETEROBASIDION ANNOSUM IN CALIFORNIA

by Darvin DeShazer, Virginia Waters and Brad Thompson

Two new hosts for the major root-rot pathogen Heterobasidion annosum, also known as Fomes annosus, were found in Patrick's Point State Park in Trinidad, California. As part of an ongoing mycological inventory of the park, sporocarps of Heterbasidion annosum (Fr.) Bref., which causes annosus root rot, were collected from a single Monterey Cypress (Cupressus macrocarpa Hartw.) and numerous Red Alders (Alnus rubra Bong.). All of the infected hosts were stressed by shading and the Cypress tree was planted outside of its natural range in a windbreak situation. A preliminary examination of the literature revealed no previous reports of H. annosum occurring on Monterey Cypress and it is reported to occur on Red Alder only in British Columbia (Shaw, 1973).

Heterobasidion annosum can be found worldwide and on the west coast it occurs from Mexico to Canada. It is the most common forest pathogen in California and perhaps the most destructive.

The fungus can be a virulent parasite, often becoming established by windborne spores on wounds, but especially on freshly cut stumps. It spreads from tree to tree by root-to-root contact resulting in distinctive infection centers. It is also capable of living saprophytically on dead wood for extended periods of time. The perennial conks are resupinate to pileate and usually located in hollows, crotches, at root collars, inside of stumps, at the soil line, or subterranean on the roots, but never high in the tree. Infected trees are easily blown down by the wind.

In Patrick's Point State Park, approximately 50 Sitka spruce trees were blown down during the winter of 1986, as were numerous Red Alders. Over 50% of these trees had sporocarps of Heterobasidion annosum on them. A backhoe survey of roots at known annosus infection centers in Blodgett State Forest revealed a 7 fold difference between the number of infected trees and the trees actually exhibiting symptoms. Based upon above ground symptoms, only 14% of the total number of diseased trees at Blodgett were detected prior to root analysis (Parameter, et. al., 1986). Applying this information from the Blodgett backhoe survey to Patrick's Point State Park suggests that as many as 300 additional trees might also be infected!

Annosus root rot is a common disease of conifers. Although the disease has been reported on Coast Live Oak (Tidwell, 1986) and Madrone (Thompson and Adams, 1983), it is rarely known to infect broadleaf trees on the west coast. It thus seems unusual to find the disease attacking several Red Alders that are dispersed throughout a northern coniferous forest. Common occurrence of the disease on Sitka spruce within the park probably serves as a reservoir for future inoculation.

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Virginia Waters is a translator of several books on mycology and is assisting with an inventory of the mycological resources of Patrick's Point State Park.